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 PD - 1995-10-27
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 TI - BONE DENSITY MEASURING METHOD
 IN - UCHIDA MITSUKO;SANO KOICHI;KUMAMOTO MIYAKAI
 PA - HITACHI LTD;HITACHI MEDICAL CORP
 IC - H04N5/325 ; A61B6/00 ; G06T1/00

TI - Automatic bone density measurement based on anatomical shape of femur central terminal - using dual energy x-ray absorptiometry or dual photon absorptiometry to automatically measure amount of bone salt and of femur central terminal

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PA - (HITA) HITACHI LTD
 - (HITR) HITACHI MEDICAL CORP

IC - A61B6/00 ;G06T1/00 ;H04N5/325

AB - J07284020 The method involves the use of two sheets of X-ray image which includes the bottom femur central terminal of photography with two kinds of energy. A measuring (10) and a correcting (11) domain are then set up to produce a differential image.

- A measurement particle is extracted from the differential image and the amount of bone salt and bone density are then computed based on the differential image produced from the measuring and correcting domains.
- USE/ADVANTAGE - Automatically reproduces and extracts measurement particles for bone density measurement and instrumentation which is based on anatomical shape of femur central terminal.
- (Dwg.1/7)

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- AP - JP19940074609 19940413
- IN - UCHIDA MITSUKO; others02
- PA - HITACHI LTD; others:01
- TI - BONE DENSITY MEASURING METHOD
- AB - PURPOSE:To automatically extract a measurement area so as to make it suitable for the measurement of bone density by performing the setting of a measurement object area and the calculation of a correction value for which reproducibility is high based on the anatomical shape of a femur center end part.
 - CONSTITUTION:Since it is considered that the anatomical shape of a femur part in image pickup is approximately the same in the case of the same patient as long as a substantial change such as the fracture of a bone or the like and a large difference in a photographing posture is not present around the femur, the measurement object area20 is set based on the anatomical shape. That is, without preparing a difference picture54 in addition to measuring the bone density of the femur center end part, the area measured by a tentative difference picture52 and a binary picture 53 is extracted and a bone salinity amount is obtained by the cumulative density value of the tentative difference picture52 and the correction value F. Since $BMCN=BMCN'-F$ is attained when the cumulative density value in the tentative difference picture52 of an N part 22 is defined as $BMCN'$ for instance and the bone density $BMDN$ becomes $BMDN=BMD'-F$ when a tentative average density value is defined as $BMDN'$ similarly for the bone density, only a threshold density value (t) is used so as to distinguish the bone and soft part tissues.
- I - H04N5/325 ;A61B6/00 ;G06T1/00

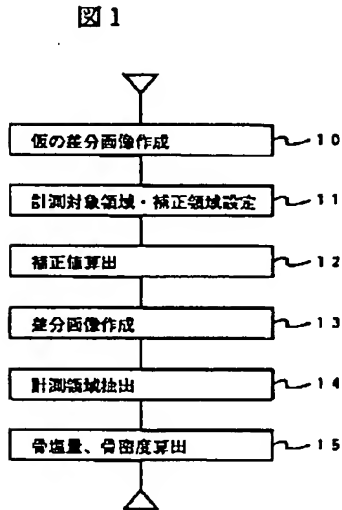
9

10

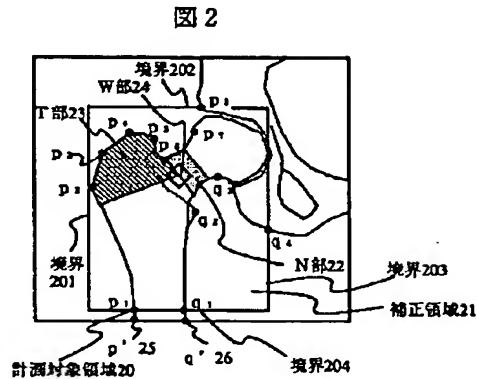
26…シャフトの左右端点 p' 、31…シャフトの主軸、32、33…大腿骨頸部の主軸、50…L画像、5

1…H画像、54…差分画像。

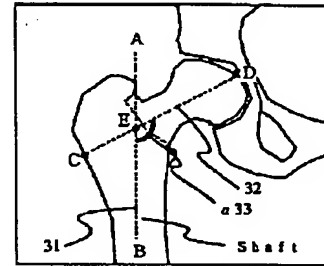
【図1】



【図2】

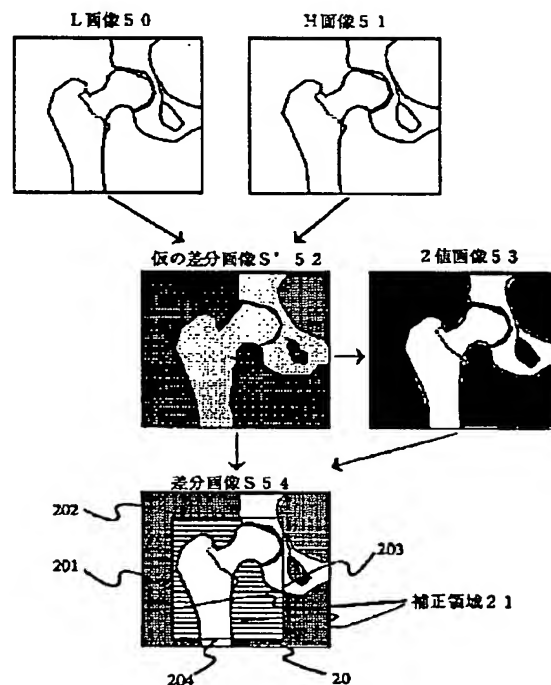


【図3】



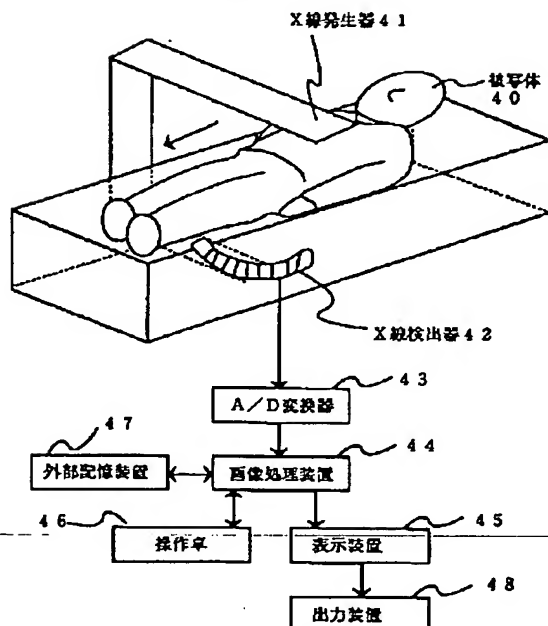
【図5】

図5



【図4】

図4



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